

### **REMARKS**

Claims 1-29 are pending in the above identified application. Claims 1-13 have been canceled without prejudice from this application. The specification has been amended to update references to other filed applications and patents. Claims 14-19, 24-25, 27, and 29 have been amended in order to further clarify the invention. No new matter has been added in these amendments.

### **Restriction Requirements**

Applicants have elected to prosecute claims 14-29 in the present application. Applicants, therefore, have canceled claims 1-13 from this application. The Examiner is requested to reinstate claims 21-23 and 28 after claim 14 has been found allowable.

### **Information Disclosure Statement**

The Examiner has indicated that certain references on the 1449 form submitted with the Information Disclosure Statement have not been considered. Those references are being resubmitted in an Information Disclosure Statement filed with the present Amendment.

### **Claim Rejections under 35 U.S.C. § 112**

The Examiner has rejected claims 15-19, 24-25, 27, and 29 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants have made the appropriate amendments to overcome these rejections.

In particular, the examiner has indicated that there is no antecedent basis for “the first frequency” in claim 17. Claim 17 has been amended to depend from claim 15, where the antecedent basis for “the first frequency” resides, instead of claim 14.

Further, the examiner indicates that “it is unclear if ‘radiofrequency’ (one word) is different from ‘radio frequency’ used in the specification.” To clarify the claims, claims 15-19, 24-25, and 29 have been amended to replace the one word “radiofrequency” with the two-word version --radio frequency--, consistently with the specification.

Also, the Examiner has indicated that in claim 29 there is no antecedent basis for “the process.” Claim 29 has been amended to replace “the process” with --the method--. Further, the Examiner has indicated that it is unclear whether the radio frequency power of line 6 is the same or different from the radio frequency power of line 5. To make it clear that there may be a difference, claim 29 has been amended to replace “radiofrequency power” on line 5 with --a first radio frequency power-- and “radiofrequency power” on line 6 with --a second radio frequency power--.

As indicated above, the claims have been amended to clarify the difficulties indicated by the Examiner. Therefore, Applicants request that the Examiner remove this rejection.

#### Claim Objections

The Examiner has objected to claim 27 “under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.” Claim 27 claims one embodiment of how the layer and the ridge structure is formed in the material where the material in that embodiment is a silicon wafer. Therefore, claim 27 is not only within the scope of claim 14, but further restricts the scope of claim 27 to formation of the ridge structure

on a silicon wafer. Further, the examiner indicates that the first material is a glass. In the case of the embodiment claimed in claim 27, the first material includes a silicon wafer with a layer of silica, in which the ridge structure has been formed.

Therefore, Applicants request that the Examiner remove the objections to claim 27 on this basis.

#### Claim Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 14 and 17 under 35 U.S.C. 102(e) as being anticipated by Kawaguchi (U.S. Patent No. 6,605,228). However, Kawaguchi does not teach “wherein the planar optical device is formed with the core layer deposition on the ridge portion of the ridge structure,” which is recited in claim 14 (as amended). Kawaguchi teaches, as is shown in Figures 7a to 7c of Kawaguchi, that the core layer deposited on the ridge portion is completely removed. As indicated in Kawaguchi, “the surface of the assembly is removed until the surface of the substrate 12 is exposed either by physical polishing or chemical etching (FIG. 7d).” (Kawaguchi, col. 6, lines 16-18). As indicated by Kawaguchi, “[t]his results in a core 14 formed in the recess 12a of the substrate 12, and the core 14 and the substrate 12 jointly defining a planar surface.” (Kawaguchi, col. 6, lines 18-20).

Therefore, claim 14 is allowable over the teachings of Kawaguchi. Claim 17, which depends from claim 14, is therefore allowable over Kawaguchi for at least the same reasons as is claim 14.

### Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 15-16, 24-26, and 29 under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi and further in view of Klein (U.S. Patent No. 3850604). Without specifically discussing or agreeing with any of the Examiner's assertions regarding the teachings of Klein with respect to these claims, the combination of Kawaguchi and Klein do not teach the elements of claims 15-16, 24-26, and 29.

As is discussed above, Kawaguchi does not teach "wherein the planar optical device is formed with the core layer deposition on the ridge portion of the ridge structure," which is recited in claim 14 (as amended). Klein does not cure the defects in the teachings of Kawaguchi. Therefore, claims 15-16, 24-26, and 29, which depend from claim 14, are allowable over the combination of Kawaguchi and Klein for at least the same reasons as is claim 14.

### Allowable Subject Matter

The Examiner has indicated that claims 18-20 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112 and to include all of the limitations of the base claim and any intervening claims. Claims 18-20 have been amended to cure the rejections under 35 U.S.C. § 112. Further, claim 18 has been rewritten to include the limitations of the base claim and any intervening claims. Claims 19 and 20 depend from claim 18. Therefore, claims 18-20 are allowable.

Conclusion

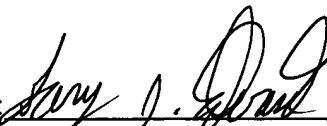
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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By:   
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